

**REMARKS/ARGUMENTS**

Applicant respectfully requests reconsideration of this application in view of the following remarks.

Claims 1-27 stand rejected under 35 U.S.C. § 103 as being unpatentable over Jacob et al [Jacob 6,385,643 131] in view of Balabine [6,631,417 B1].

**Claim 1 Rejection under 35 U.S.C. § 103 – Jacob in view of Balabine**

Applicant's claim 1 recites:

1. A computer network architecture comprising:

a first layer including a transmission control protocol connection;

a second layer including a hyper text transfer protocol connection built upon the first layer;

a first tunneling layer including a first tunneling protocol built upon the second layer to tunnel a message through the hyper text transfer protocol connection; and

a multiplexing layer to multiplex a plurality of messages for transmission through the first tunneling layer.

**Firstly:**

The Office has stated in paragraph 3 pages 2 and 3:

Jacob discloses a **distributed processing system** using a first layer software and a second or upper layer software layer as TCP/IP [Jacob, the first layer and upper layer, col 7 lines 15-38] .

[Emphasis added.]

Applicant submits that Jacob's distributed processing system is not the same as, and does not make obvious, Applicant's computer network architecture which is concerned with communication not distributed processing.

**Secondly:**

Furthermore, at the site referenced by the Office (col 7 lines 15-38), Jacob specifically states: a JVM is built upon the TCP/IP layer (see Fig 3a, 354).

Jacob states:

**A JVM 354 is then implemented. A kernel 355 having a remote Java.TM. virtual machine 356 is then layered on JVM 354.**

[Emphasis added.]

A JVM built upon the TCP/IP layer (Jacob) is not the same as a HTTP connection built upon a TCP/IP layer (Applicant). Additionally, a Remote JVM (RJVM) is layered on the JVM (Jacob) which is not the same as a tunneling layer built upon the HTTP (Applicant).

Jacob (Figure 3a) clearly shows a stackup as follows:

TCP/IP <-> JVM <-> Kernel with RJVM (Jacob)

This is not the same as Applicant's claim 1:

TCP/IP <-> HTTP <-> Tunneling <-> Multiplexing (Applicant)

**Thirdly:**

At the site referenced by the Office (col 7 lines 15-38), Jacob specifically states:

Kernel 355, described in detail below, is used to **transfer messages between processing devices in a clustered enterprise Java.TM. distributed processing system.** Remote method invocation 357 and enterprise Java.TM. bean 358 are upper software layers of kernel 355. EJB 358 is a container for a variety of Java.TM. applications.

[Emphasis added.]

Jacob describes the transfer of messages between devices in a clustered JAVA distributed processing system. Applicant's claim 1 has no such limitations as being clustered, being JAVA, or being a distributed processing JAVA system. Jacob therefore does not make obvious what Applicant has claimed.

**Fourthly:**

The Office next cites (page 3) "Balabine discloses a method and apparatus for securing access to a computer wherein a **connection manager keeps the TCP/IP connection to web server open and waiting for the HTTP response** [Balabine, col 6 lines 27-37]."

[Emphasis added.]

Applicant's claim 1 does not claim a connection manager nor does claim 1 disclose or suggest keeping a connection open waiting for a HTTP response.

**Fifthly:**

Balabine, at col 6 lines 27-37, describes a multiplexer 28. Applicant believes that the Office is trying to equate this Balabine multiplexer with that of the multiplexer in Applicant's claim 1. They are very different.

The multiplexer as described by Balabine (see col 2, lines 44-64) does the following:

...The connection manager, located behind a firewall, establishes an outgoing connection to the multiplexer and sends the multiplexer a request message. **The multiplexer**, which is located outside of the firewall, **receives and queues the request message**, keeping the connection open.

A server outside the firewall receives a request from a client and forwards it to the multiplexer. **The multiplexer dequeues the previously queued request message and creates a response message containing the client request**. The response message, including the client request, is then sent to the connection manager.

The connection manager removes the client request from the response message and sends it to a protected application, or back-end, for processing. When the processing has been completed, the connection manager sends the back-end response to the multiplexer in another request message. **The multiplexer removes the response from the request message and passes the response to the outside server for sending to the requesting client**.

[Emphasis added.]

The multiplexer in Applicant's claim 1 is "a multiplexing layer to multiplex a plurality of messages for transmission through the first tunneling layer."

Balabine's multiplexer which receives messages, queues messages, dequeues messages, removes responses, and creates a response message is not the same as in

Applicant's claim 1. Additionally, Balabine's multiplexer does not disclose or suggest multiplexing messages for transmission through the first tunneling layer.

**Sixthly:**

The Office next asserts (page 3) that the combination of Jacob and Balabine makes obvious Applicant's claim 1.

Applicant disagrees and submits that neither Jacob nor Balabine individually or in combination describes what is claimed in Applicant's claim 1.

First: Neither Jacob nor Balabine individually or in combination describe or suggest Applicant's claim 1 stackup of TCP/IP <-> HTTP <-> Tunneling <-> Multiplexing.

Second: There is no suggestion in either Balabine or Jacob to combine with the other. Jacob is concerned with passing messages from kernel to kernel in a Java distributed processing system and Balabine is concerned with providing secure communications around a firewall.

Third: Combining Balabine with Jacob would destroy the functionality of Jacob. The connection manager of Balabine would have to replace the kernel of Jacob (355 Figure 3a) which contains the JVM (356), and the back-end of Balabine would have to replace the EJB of Jacob (358 Figure 3a). This would destroy the ability of Jacob to pass messages to/from the kernel.

Fourth: Likewise trying to combine Jacob with Balabine would require that the connection manager of Balabine be replaced by the kernel and JVM of Jacob thus destroying the connection manager functionality of Balabine.

Fifth: Neither Jacob nor Balabine individually or in combination describe or suggest Applicant's claim 1 limitation of multiplexing messages for transmission through the first tunneling layer.

For all the reasons above, Applicant submits that claim 1 is not obvious in view of Jacob in view of Balabine and Applicant therefore requests that this rejection be withdrawn and that claim 1 and all claims dependent on claim 1 be allowed.

**Claim 2 Rejection under 35 U.S.C. § 103 – Jacob in view of Balabine**

Claim 2 is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion that Applicant's claim 2 is not obvious in view of Jacob in view of Balabine.

Additionally, the Office has stated (page 3 paragraph 4)

4. As per claim 2, Jacob-Balabine disclose the first **tunneling** protocol opens the HTTP connection between a server and a client [Balabine, col 6 lines 27-37].

[Emphasis added.]

At the cited location Balabine discloses:

Multiplexer 28 also sends, via web server 27 at step 71, confirmation message 73 to indicate that http client response message 69 has been sent to the client. Gateway web server 27 and multiplexer 28 then wait, at step 74, for the next http client request. At step 75, connection manager 29 notifies back-end 31 that the response was delivered thereby signaling the end of the transaction.

**At step 76, connection manager 29 keeps the TCP/IP connection to gateway web server 27 open, waiting for the next https response containing a client request.**

[Emphasis added.]

Keeping a TCP/IP connection open (Balabine) is not the same as a tunneling protocol opening a HTTP connection (Applicant's claim 2). Applicant therefore requests that this rejection be withdrawn and that claim 2 be allowed.

**Claim 3 Rejection under 35 U.S.C. § 103 – Jacob in view of Balabine**

Claim 3 is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion that Applicant's claim 3 is not obvious in view of Jacob in view of Balabine.

Additionally, the Office has stated (page 3 paragraph 5)

5. As per claim 3, Jacob-Balabine disclose **a second tunneling layer including a second tunneling protocol** built upon the first layer to tunnel a message through the TCP connection [Balabine, col 6 lines 27-37] .

[Emphasis added.]

At the cited location Balabine discloses:

Multiplexer 28 also sends, via web server 27 at step 71, confirmation message 73 to indicate that http client response message 69 has been sent to the client. Gateway web server 27 and multiplexer 28 then wait, at step 74, for the next http client request. At step 75, connection manager 29 notifies back-end 31 that the response was delivered thereby signaling the end of the transaction.

**At step 76, connection manager 29 keeps the TCP/IP connection to gateway web server 27 open, waiting for the next https response containing a client request.**

[Emphasis added.]

Balabine does not disclose a second tunneling layer including a second tunneling protocol built upon the first layer to tunnel a message through the transmission control protocol connection, as in Applicant's claim 3. Balabine as stated before keeps a TCP/IP connection open. Applicant therefore requests that this rejection be withdrawn and that claim 3 and all claims dependent on claim 3 be allowed.

**Claim 4 Rejection under 35 U.S.C. § 103 – Jacob in view of Balabine**

Claim 4 is dependent on claim 3 which is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 and claim 3 discussions above that Applicant's claim 4 is not obvious in view of Jacob in view of Balabine.

Additionally, the Office has stated (page 4 paragraph 6)

6. As per claim 4, Jacob-Balabine disclose the **second tunneling protocol is used to open the TCP connection** between the server and the client [Balabine, col 6 lines 27-37].

[Emphasis added.]

At the cited location Balabine discloses:

Multiplexer 28 also sends, via web server 27 at step 71, confirmation message 73 to indicate that http client response message 69 has been sent to the client. Gateway web server 27 and multiplexer 28 then wait, at step 74, for the next http client request. At step 75, connection manager



29 notifies back-end 31 that the response was delivered thereby signaling the end of the transaction.  
**At step 76, connection manager 29 keeps the TCP/IP connection to gateway web server 27 open, waiting for the next https response containing a client request.**

[Emphasis added.]

Balabine does not disclose wherein the second tunneling protocol is used to open the transmission control protocol connection between the server and the client, as in Applicant's claim 4. Balabine as stated before keeps a TCP/IP connection open. Applicant therefore requests that this rejection be withdrawn and that claim 4 and all claims dependent on claim 4 be allowed.

**Claim 5 Rejection under 35 U.S.C. § 103 – Jacob in view of Balabine**

Claim 5 is dependent on claim 4 is dependent on claim 3 which is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1, claim 3, and claim 4 discussions above that Applicant's claim 5 is not obvious in view of Jacob in view of Balabine.

Additionally, the Office has stated (page 4 paragraph 7)

7. As per claim 5, Jacob-Balabine disclose tunneling protocol **opens the HTTP connection if the second tunneling protocol is not successful in opening the TCP connection** [Balabine, keep the TCP/IP connection remain open, col 5 lines 1-35].

[Emphasis added.]

At the cited location Balabine discloses keeping the "TCP/IP connection open" (line 1), the server starting "a new thread of execution" (lines 7-9), the multiplexer building a response and dequeuing and waking up an associated thread (lines 24-27). Balabine does not disclose wherein the first tunneling protocol opens the hyper text transfer protocol connection if the second tunneling protocol is not successful in opening the transmission control protocol connection, as in Applicant's claim 5. Applicant therefore requests that this rejection be withdrawn and that claim 5 be allowed.

**Claim 6 Rejection under 35 U.S.C. § 103 – Jacob in view of Balabine**

Claim 6 is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion that Applicant's claim 6 is not obvious in view of Jacob in view of Balabine. Applicant therefore requests that this rejection be withdrawn and that claim 6 be allowed.

**Claim 7 Rejection under 35 U.S.C. § 103 – Jacob in view of Balabine**

Claim 7 is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion that Applicant's claim 7 is not obvious in view of Jacob in view of Balabine. Applicant therefore requests that this rejection be withdrawn and that claim 7 and all claims dependent on claim 7 be allowed.

**Claim 8 Rejection under 35 U.S.C. § 103 – Jacob in view of Balabine**

Claim 8 is dependent on claim 7 which is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion and the claim 7

discussion above that Applicant's claim 4 is not obvious in view of Jacob in view of Balabine. Applicant therefore requests that this rejection be withdrawn and that that claim 8.

**Claim 9 Rejection under 35 U.S.C. § 103 – Jacob in view of Balabine**

Claim 9 is dependent on claim 7 which is dependent on claim 1 and Applicant submits that for all the reasons in the claim 1 discussion and the claim 7 discussion above that Applicant's claim 9 is not obvious in view of Jacob in view of Balabine.

Additionally, the Office has stated (pages 4-5 paragraph 11)

11. As per claim 9, Jacob-Balabine disclose the administrative messages can be selected from the group consisting of **debug messages, firmware update messages and parameter configuration messages** [Balabine, request message, response message, col 5 lines 54-64].

[Emphasis added.]

At the cited location Balabine discloses:

At step 51, connection manager 29 receives **https response message 49** and extracts **http client request message 46'**, saving the transaction identification number for later use. At step 52, **http request message 46'** is sent to back-end 31 for processing as required. Connection manager 29 also sends, at step 54, **another https setup request message**, similar to https setup request message 32, back to web server 27 to maintain the pool of TCP/IP connections and gateway web server 27 resumes waiting for another client request message at step 55.

[Emphasis added.]

Balabine does not disclose wherein the administrative messages can be selected from the group consisting of debug messages, firmware update messages and parameter configuration messages, as in Applicant's claim 9. Balabine is communicating response and request messages not debug, firmware update, or parameter configuration messages. Applicant therefore requests that this rejection be withdrawn and that claim 9 be allowed.

**Claims 10-19 and 19-27 Rejection under 35 U.S.C. § 103 – Jacob in view of Balabine**

The Office has stated in paragraph 12 page 5:

12. Claims 10-19, 19-27 contain the similar limitations set forth of apparatus claims 1-9. Therefore, claims 10-27 are rejected for the similar rationale set forth in claims 1-9.

Applicant submits that claims 10-27 are not obvious in view of Jacob in view of Balabine and that for all the reasons stated above with respect to the discussion of claims 1-9 (hereby incorporated) that claims 10-27 are allowable. Applicant therefore requests that claims 10-27 be allowed.

CONCLUSION

Applicant respectfully submits that all claims are in condition for allowance, and requests allowance of all claims.


The Examiner is invited to call Alan Heimlich at 408 253-3860 if there remains any issue with allowance. Email communication is authorized.

Respectfully submitted,

Heimlich Law

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Date

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